TP-LINK®

User Guide

MC200CM

MC210CS

MC220L

Gigabit Ethernet Media Converter

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Package Contents

Before starting using the products, make sure what you have is what you ordered. The Converter includes:

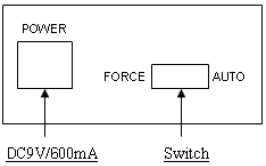
- One Converter
- One AC-DC Power Adapter (DC9V/600mA)
- One User Guide

1. Introduction

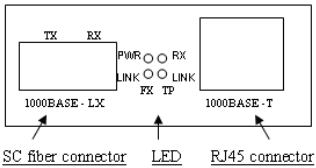
MC200CM, MC210CS and MC220L are Gigabit Ethernet Media Converters. The FX port of MC220L supports hot-swappable.

The converter mediates between a 1000Base-TX segment and a 1000Base-X segment. It is primarily designed for larger bandwidth, and higher speed demanding workgroups that require expansion of the Gigabit Ethernet network

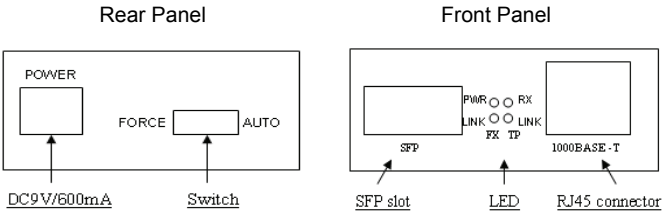
Rear Panel



Front Panel



MC200CM&MC210CS



MC220L

Note:

This media convertor can also be powered by 5VDC Adapter.

2. Features

- Comply with IEEE 802.3ab and IEEE 802.3z.
- Provide one SC/LC fiber connector and one RJ45 connector. Please check the table in page 3 for the accurate connector of each model.
- Work at 1000Mbps in Full-Duplex mode for both TX port and FX port.
- Support auto MDI/MDIX for TX port.
- Extend fiber distance up to 0.55km for multi-mode fiber and 15km for single-mode fiber. Please check the table in page 3 for the accurate transmission distance of each model.
- Easy-to-view LED indicators provide status to monitor network activity easily.
- External power supply.

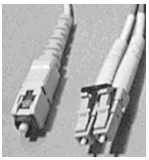
- FX port supports hot-swappable(only for MC220L).

Connectors and Network Cables Supported

The connectors and network cables supported by the converter are listed as follows.

- Connectors: RJ-45, SC, LC.
- Network Cables: Cat.5 Twisted-Pair(below abbreviated as TP), 9/125um Single-mode fiber, 62.5/125,50/125um Multi-mode fiber.

Model No.	Interface	Transmission Distance	Transmission Media	Output Center Wavelength
MC200CM	RJ45--SC	0.55km(50/125um) 0.22km(62.5/125um)	Multi-mode Fiber,TP	850nm
MC210CS	RJ45--SC	15km	Single-mode Fiber,TP	1310nm
MC220L	RJ45--LC	0.55km/10km	Multi/single-mode	850nm/1310 nm



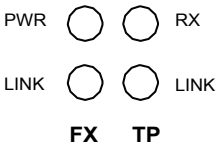
SC fiber connector and LC fiber connector

3. Appearance Indication

3.1 LED Indicators

This converter has LED indicators which can provide a real-time report.

When you take a look at these indicators, you will know what's happening on your network.

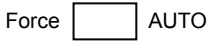


Name		Status	Indication
PWR		On	Power on
		Off	Power off
FX	LINK	On	There's a valid link for FX Port.
		Off	There's no valid link for FX Port.
TP	LINK	On	There's a valid link for TP Port.
		Off	There's no valid link for TP Port.
	RX	On	The converter is receiving data from TP port.
		Off	The converter is not receiving data from TP port.

Note:

The TP port mentioned in this User Guide Manual stands for the TX port without any explanations.

3.2 Switch



- **FORCE:** The FX port operates in FORCE mode.

- **AUTO:** The FX port operates in Auto-Negotiation mode.

Note:

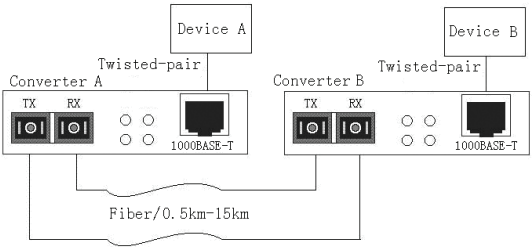
Be sure the opposite end is using the same setting. When using two converters at the same time, the two converters must be set to **FORCE mode**. When connected to other products, such as TL- SL2210WEB or TL-SL2428WEB, the converter must be set to **Auto- Negotiation mode**. We suggest leaving the switches on AUTO.

Please reset the converter after configuring the switches. Then the change would take effect.

4. Installation Guides

4.1 Gigabit Ethernet Media Converter:

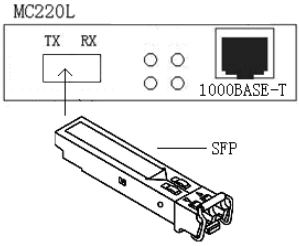
- The SC fiber connector of MC200CM transmits/receives data by 850nm short wave laser on multi-mode fiber.
- The SC fiber connector of MC210CS transmits/receives data by 1310nm short wave laser on single-mode fiber.



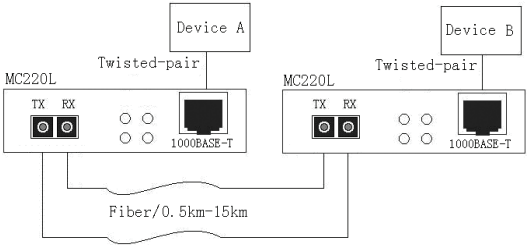
Transmits and receives data on different fibers

Note:

Either two MC200CM or two MC210CS could cooperate. MC220L can be plugged in with two kinds of SFP modules, single-mode or multi-mode.



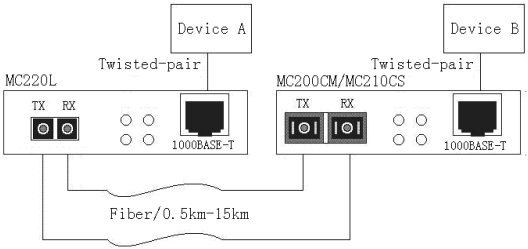
Plug the SFP module into MC220L



Transmits and receives data between two MC220L

Note:

Two MC220L with the same SFP module could cooperate.



Transmits and receives data between MC220L and MC200CM/MC210CS

Note:

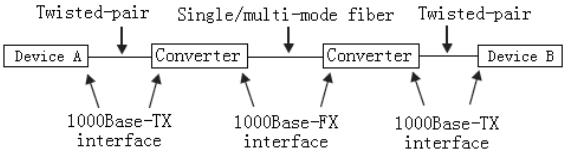
MC220L could be connected to MC200CM or MC210CS, however, the SFP module in MC220L must use the same mode and the same wavelength as the opposite end. (Please refer to the table below) And the connection fiber must be LC-SC fiber.

Model No.	MC220L connect with	MC200CM	MC210CS
Transmission Media	SFP module	850nm, Multi-mode	1310nm, Single-mode

4.2 Configuration

In order to achieve the aim of effectively expanding a Gigabit Ethernet network, please take the following examples for reference:

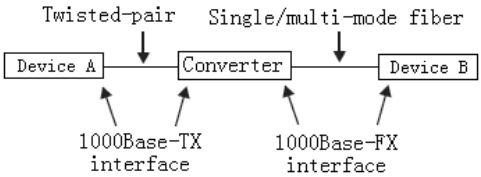
1. Place two converters back to back between the following end devices.



Note:

For the correct connection between 2 Media Converters, please refer to connection diagram in 4.1 ---- two MC200CM, two MC210CS, two MC220L or one MC220L with another MC200CM/MC210CS.

2. Another effective application is to place one converter directly between a 1000Base-TX network and a fiber optic (FX) device.



4.3 Installation Procedure

Use a fiber cable to connect two converters, or connect a converter with a 1000Base-FX Device.

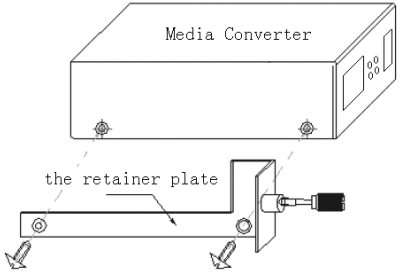
1. Connection of a Converter and a 1000Base-TX Device (HUB or Switch): Make sure that the length of the Cat.5 twisted pair cable (Category-5) between the 1000Base-TX device and the converter is less than 100 meters. Connect one end of the Cat.5 twisted pair cable to the RJ45 jack on the converter and the other end of the cable to the RJ45 jack on the 1000Base-TX device.

2. Connection of two Converters or a Converter and a 1000Base- FX Device: Use a SC fiber cable to connect the two Converters' SC connectors or the SC connecters of a Converter and a 1000Base-FX Device.

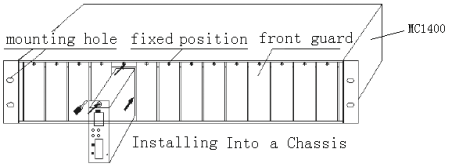
3. Turn on the power.

4.4 Install Media Converter into MC1400

Tweak out the two screws located on either side of the Chassis's one side, and use them to install the retainer as follows.



1. Turn off the switch power, take off the front guard on the chassis, insert the boxlike Media Converter you need in the slot of the chassis, and use locking knob to lock it tightly as follows.



2. Turn on the switch power and you will see the Media Converter's

POWER LED lit on. Then you can operate it as the boxlike Media Converter of the MC series.

5. Troubleshooting

If you encounter some problems when you install or use this product, please try to solve the problem according to the following steps. If it still doesn't work, please contact your dealer or ask for help from our technical support.

1. PWR LED is off: The power error. Please check that whether the power lead is connected correctly or not.

2. LINK LED (TP port) is off: Please confirm that there is no open circuit with cable and make sure that the connection type of the device is 1000M.

3. LINK LED (FX port) is off:

    1) Check the fiber mode and fiber type to make sure that they match the Gigabit transceivers.

    2) Check out that whether there is an open circuit or not.

    3) Check the fiber loss by the Fiber-Optic Tester to avoid the excess wastage of the fiber.

    4) Make sure that the FX port is connected correctly as following: The transmitting port (TX) of local end is connected to the receiving port (RX) of outlying end. And the receiving port (RX) of local end is connected to the transmitting port (TX) of outlying end.

6. Appendix: Specifications

MC200CM

Standards and Protocols	IEEE802.3ab, IEEE 802.3z, IEEE 802.3x
Media Interface	SC, RJ45
Max. Distance	Cat.5: 100m
	Multi-mode Fiber: 0.55km
Power	External Power Adapter
Temperature	Operation: 0℃~40℃
	Storage: -40℃~70℃
Humidity	Operation: 10%~90% non-condensing
	Storage: 5%~90% non-condensing

MC210CS

Standards and Protocols	IEEE802.3ab, IEEE 802.3z, IEEE 802.3x
Media Interface	SC, RJ45
Max. Distance	Cat.5: 100m
	Single-mode Fiber: 15km
Power	External Power Adapter
Temperature	Operation: 0℃~40℃
	Storage: -40℃~70℃
Humidity	Operation: 10%~90% non-condensing
	Storage: 5%~90% non-condensing

MC220L

Standards and Protocols	IEEE802.3ab, IEEE 802.3z, IEEE 802.3x
Media Interface	LC, RJ45
Max. Distance	Cat.5: 100m
	Multi/Single-mode Fiber: 0.55km/10km
Power	External Power Adapter
Temperature	Operation: 0℃~40℃
	Storage: -40℃~70℃
Humidity	Operation: 10%~90% non-condensing
	Storage: 5%~90% non-condensing

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